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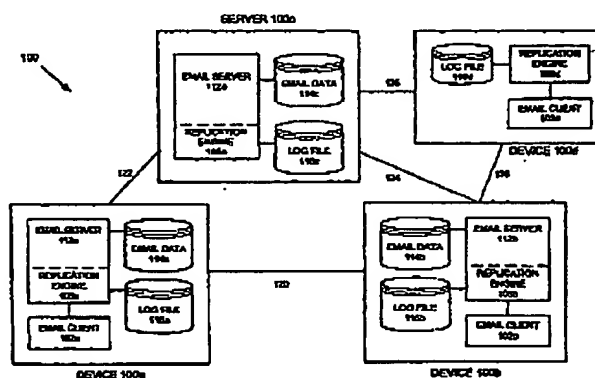
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(54) Title: SYNCHRONIZING DATA AMONG MULTIPLE DEVICES IN A PEER-TO-PEER ENVIRONMENT



(57) Abstract: A system for synchronizing data in a peer-to-peer environment includes multiple computing devices sharing a set of data. Each device includes a replication module for logging and trading data changes with other devices. A device having sufficient resources may also include a local version of the shared data and an application server that allows access to the data even while the device is disconnected from other devices. The replication module logs a description of each operation that alters the data. When one device is connected to a second device in the system to synchronize data, the devices' replication modules exchange log entries. For example, one device receives from a second device data changes made by the second device and other devices that already synchronized with the second device. Thus, the method of data synchronization is transitive and allows a device to fully update its local copy of the shared data by connecting to just one other device, which may or may not be a central server.

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INTERNATIONAL SEARCH REPORT

Int. Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	EP 0 794 646 A (IBM) 10 September 1997 (1997-09-10) abstract column 4, line 10 -column 5, line 11 column 5, line 38 -column 6, line 12 column 9, line 37 -column 10, line 43 column 11, line 52 -column 12, line 19 column 13, line 19 - line 28	1,2,4,5, 7-15,17, 20,21 3,6,16, 18,19
Y A	US 5 884 325 A (BODGE ANDREW ET AL) 16 March 1999 (1999-03-16) abstract column 1, line 52 -column 3, line 8 column 3, line 59 -column 4, line 31 column 6, line 57 - line 64 column 8, line 1 - line 10 column 9, line 4 - line 58 column 10, line 30 - line 66	13,14 1,11,17, 18,20

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Information on patent family members

Int. Patent Application No.

PCT/US 00/30693

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5710922	A	20-01-1998	NONE	
EP 0794646	A	10-09-1997	EP 0794646 A2	10-09-1997
			JP 9244936 A	19-09-1997
			US 6088706 A	11-07-2000
US 5884325	A	16-03-1999	NONE	

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